HSCD CONTROL # 0024 DUE DATE: ——

ASSIGNED TO: (3WC20) Quillen DATE REC'D BY HSCD:

SUBJECT: Bally Groundwater Contam. Site - Prop. Remed Action Plan

☑ Review and Take Appropriate Action ☑ For Your Information

☑ Circulate to Appropriate Staff

☐

AR301447

Pennsylvania Department of Environmental Protection

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March 14, 2007

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James J. Burke, Director (3HS00)
Hazardous Sites Cleanup Division
US EPA Region 3
1650 Arch Street
Philadelphia, PA 19103-2029

Re: Proposed Remedial Action Plan
Bally Groundwater Contamination Site
Borough of Bally
Berks County, Pennsylvania

Dear Mr. Burke:

The Department has reviewed the Draft Proposed Remedial Action Plan (PRAP) to address the 1,4-dioxane present in the Bally public water system. The draft Superfund PRAP indicates that the preferred option is Alternative 1 - Installation of a New Municipal Supply Well outside of the area of the current groundwater plume. The Department also believes this is the best option. EPA proposes that water from the new well shall not exhibit contaminant concentrations in excess of PADEP Primary or Secondary Maximum Contaminant Levels (MCLs) and for 1,4-dioxane the concentration should not be in excess of six (6) parts per billion (ppb). We are opposed to this proposed standard and believe that the drinking water standard and action level should be three (3) parts per billion, as previously required in the September 30, 2003 Emergency Administrative Order on Consent.

First and foremost in our consideration is the need to establish a standard that is protective of the health of the customers of the Bally Borough public water system. The PRAP suggests that six (6) ppb is an appropriate standard based upon a one in 1,000,000 excess cancer risk level for a 30-year exposure. What the PRAP fails to consider, however, is that the customers of the Bally system may already have been exposed to high levels of 1,4-dioxane for many years before anyone learned of its presence in the drinking water. Volatile organic compound (VOC) contamination of the Bally system was confirmed as early as 1982; apparently no one knew to look for 1,4-dioxane at the time. When 1,4-dioxane was found in the water supply in February 2003, it was found at levels as high as 77 parts per billion, which is more than 25 times EPA's standard for 70-year exposure and more than 12 times the standard for 30-year exposure. Long-term consumers of the water produced by Bally Borough may already have been exposed to excessive concentrations of 1,4-dioxane for as many as 21 years (1982 to 2003); however, the PRAP does not consider this exposure in establishing a six (6) ppb standard. Given that EPA previously concluded in

its September 30, 2003 Order "consumption of drinking water over a 70-year period containing three (3) ppb or greater 1,4-dioxane may present an imminent and substantial endangerment to the health of persons," we do not understand the logic in allowing customers who may have already been exposed to much higher concentrations for more than 20 years to now face the risk of additional exposure to 1,4-dioxane based upon a 30-year standard.

The Department is vested with the authority to establish a standard for 1,4-dioxane in general from the PA Safe Drinking Water Act and more specifically by our Regulations:

The PA Safe Drinking Water Act, 35 P.S. §721.1 et seq.

"§ 721.5. Powers and duties of department, (a) State to assume primary enforcement.- The department shall adopt and implement a public water supply program which includes, but is not limited to, those program elements necessary to assume State primary enforcement responsibility under the Federal act. The public water supply program shall include, but not be limited to, maximum contaminant levels or treatment technique requirements establishing drinking water quality standards, monitoring, reporting, record keeping and analytical requirements, requirements for public notification, standards for construction, operation and modifications to public water systems, emergency procedures, standards for laboratory certification, and compliance and enforcement procedures."

"§ 721.5 Powers and duties of department, (c) Department to enforce drinking water standards.-The department shall have the power and its duties shall be to issue such orders and initiate such proceedings as may be necessary and appropriate for the enforcement of drinking water standards, any other provision of law notwithstanding."

25 PA Code, Chapter 109, of the PA Safe Drinking Water Regulations

Chapter 109.2, Purpose. "The purpose of this chapter is to protect the public health and safety by assuring that public water systems provide a safe and adequate supply of water for human consumption by establishing drinking water quality standards, permit requirements, design and construction standards, system management responsibilities and requirements for public notification."

Chapter 109.203, Unregulated Contaminants, "The Department may by order establish an MCL or treatment technique requirement on a case-by-case basis for a public water system in which an unregulated contaminant creates a health risk to the users of the public water system. An unregulated contaminant is one for which no MCL or treatment technique requirement has been established under § 109.202 (relating to State MCLs, MRDLs and treatment technique requirements)." The Environmental Quality Board (EQB) has promulgated no MCL or treatment technique for 1,4-dioxane; therefore, the Department may regulate its presence in public water supplies per the provisions of this regulation.

Chapter 109.302, Special monitoring requirements, provides the Department with additional authority. "109.302(b) The Department may require a public water supplier to conduct additional monitoring to provide information on contamination of the water supply where a potential health hazard may exist in the water supply and monitoring required under § 109.301 may not be adequate to protect the public health." Also, "109.302(c) The Department may require a public water supplier to conduct special monitoring for an unregulated contaminant if the Department has reason to believe the contaminant is present in the public water system and creates a health risk to the users of the public water system."

Chapter 109.503(a)(1)(iii), Information describing new sources. "... Information describing new sources shall include...(XIII) Other contaminants that the Department determines necessary to evaluate the potability of the source." The Department has the regulatory authority require evaluation of all contaminants during the permitting process for new sources.

Chapter 109.503(d), Department's review. "...(6)(iii) Consistency with the environmental rights and values secured by the PA CONST. Art. I, § 27 and with the Commonwealth's duties as trustee to conserve and maintain this Commonwealth's public natural resources."

The Department's Water Supply Management Program has established a standard methodology for setting regulatory requirements for allowable levels of contaminants in permitted supplies. When considering public water supply contaminants for which no MCL, maximum residual disinfectant level (MRDL), Action Level or Treatment Technique has been established, the Department utilizes its ***Health Effects and Risk Management Guidance*** (383-0400-104). The guidance sets forth procedures for determination of non-carcinogenic endpoints of toxicity and carcinogenic potential. For unregulated contaminants, the maximum unregulated contaminant concentration is set as close as feasible to an alternate health criterion. For chemicals in EPA's A or B carcinogen groups, the criterion is the 10^{-6} (i.e. 1 in 1,000,000) excess cancer lifetime risk concentration. For noncarcinogens and equivocal-evidence contaminants (in EPA cancer groups C, D or E), the appropriate health criterion is the lifetime health advisory concentration.

In evaluating 1,4-dioxane in according with the guidance above the Department utilized EPA's 2002 edition of the ***EPA Drinking Water Standards and Health Advisories***. EPA has not established a lifetime non-carcinogenic health advisories for 1,4-dioxane. One and ten-day health advisories of four (4) ppb and 0.4 ppb (both for a 10 kg child), respectively have been developed. The carcinogenic potential was determined using EPA's IRIS database. IRIS lists 1,4-dioxane as a probable human carcinogen (B2 in its weight-of-evidence characterization scheme) with a 10^{-6} cancer risk level of three (3) ppb. Therefore, the Department is arguing for a maximum unregulated contaminant concentration of three (3) ppb, based upon its carcinogenic potential.

In addition, to operate the proposed new well and any treatment facilities as permitted additions

to the Bally Borough community water system, the applicant must first obtain public water supply construction and operation permits from the Department. All such permit applications are evaluated to determine if the proposed facilities will reliably and consistently provide water that meets the promulgated primary and secondary MCLs, Action Levels, MRDLs or Treatment Techniques. In accordance with 25 PA Code, Chapter 109.603(a) "...the water supplier shall make reasonable efforts to obtain the highest quality sources available." We therefore concur that it is preferable to develop and utilize for public water systems those sources that are located outside the area of contamination and not requiring of treatment to remove 1,4-dioxane, VOCs or other contaminants.

Bally must also obtain a Public Water Supply Permit from the Department for the proposed new municipal well and will be required to include raw water data for all of contaminants listed in the guidance ***New Source Sampling Requirements for Groundwater Sources for Community and Nontransient Noncommunity Water Systems*** (383-3130-208) As stated in that guidance, DEP may also require monitoring of any other contaminant(s) as determined necessary to adequately evaluate the quality of the source. Accordingly, any permit application for the new municipal well must include raw water data for 1,4-dioxane. As explained above, the proposed water supply facilities must produce water that meets the MCLs, MRDLS, and Treatment Techniques (TT) for the primary and secondary regulated contaminants and the lifetime health effects limit of three (3) ppb for 1,4-dioxane.

In order to operate the proposed new well and any treatment facilities as permitted additions to the Bally Borough community water system, the applicant will be required to submit a public water supply permit application, obtain a construction permit and then obtain an operation permit. Prior to issuance of any permit, the applicant will be required to show that the proposed source, treatment and transmission facilities will comply with the Department's design and operations standards as set forth in 25 PA Code, Chapter 109 and the Public Water Supply Manual. Any public water supply permit issued for the new municipal well will contain a Special Condition requiring that the existing well and its treatment must be physically severed from the remainder of the permitted system. That severance will be required to protect the consumer from contamination resulting from those facilities.

If the Department becomes aware of the potential presence of any unregulated contaminants that may be present at the finished water Entry Point as a result of use of the proposed source(s) or treatment, the application will be reviewed to determine if the proposal will reliably and consistently produce water that meets the maximum unregulated contaminant concentration as determined above. In the case of an unregulated contaminant, any permit issued to any public water supplier will contain a Special Condition to prescribe that maximum contaminant concentration. In the specific case of 1,4-dioxane, any permits issued to Bally Borough or any other public water supply would contain a permit Special Condition to limit the concentration at the finished water Entry Point to three (3) ppb, or less.

On a closely related note, Alternative 2 of the PRAP - Additional Treatment of Current Well MW #3, under "Short-Term Effectiveness" indicates that implementation of Alternative 2 would take 3-6 months. This short time frame is highly unlikely given that extensive pilot testing would be required (see Page 12 under "Long-Term Effectiveness") and that this system would also be subject to PWS permitting requirements in accordance with 25 PA Code, Chapter 109. A more realistic timeframe would be 12 to 18 months.

Thank you for the opportunity to comment. If you have any questions, please contact John Krueger, Environmental Clean-up Program Manager, at 717-705-4938.

Sincerely,

Rusty Diamond

Rachel S. Diamond
Regional Director

cc: Linda Dietz, US EPA, (3HS22)
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